

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A composition for forming a transparent film, comprising photocatalytic particles; zirconium ammonium carbonate in an amount of 0.1 mass% to 0.75 mass%; a cohydrolysis-polycondensation product of an aluminum alkoxide represented by the formula $\text{Al}(\text{OR})_3$ where R is an organic group and a titanium alkoxide represented by the formula $\text{Ti}(\text{OR}')_4$ where R' is an organic group in an amount of 0.1 mass% to 1 mass% as reduced to Al_2O_3 and in an amount of 0.01 mass% to 0.1 mass% as reduced to TiO_2 ; and water, and having a pH of 7 to 9, wherein said composition being able to be cured at 10 to 20°C to form a transparent film.
2. (canceled).
3. (previously amended): The composition for forming a transparent film according to claim 1, which comprises the photocatalytic particles in an amount of 0.1 mass% to 5 mass%.
4. (canceled).
5. (previously amended): The composition for forming a transparent film according to claim 1, wherein the photocatalytic particles have an average particle size of 0.001 to 0.1 μm as calculated from the BET specific surface area.

6. (currently amended): The composition for forming a transparent film according to claim 1, wherein the photocatalytic particles comprise at least one species selected from the group consisting of ~~among~~-titanium dioxide particles and titanium dioxide particles comprising phosphorus-containing compound on their surfaces.

7. (original): The composition for forming a transparent film according to claim 6, wherein the titanium dioxide particles comprise a brookite-crystal phase.

8. (previously amended): The composition for forming a transparent film according to claim 1, wherein the composition can be applied, without being repelled, to a substrate exhibiting a contact angle with water of 50° or more.

9. (previously amended): The composition for forming a transparent film according to claim 1, wherein the composition forms a coating film, having a hardness of 2H or more, after application onto a substrate and being allowed to stand at 10°C for 24 hours.

10. (previously amended): The composition for forming a transparent film according to claim 1, which, after undergoing the steps of applying the composition to a substrate having an area of 400 cm² to a coating thickness of 200 nm, placing the substrate in a 5-L bag made of fluororesin, feeding into the bag air containing acetaldehyde at a concentration of 20 ppm by mass, sealing the bag; and irradiating the bag with light from a day white fluorescent lamp such that the intensity of 365 nm UV light is controlled to 6 μW/cm², exhibits a percent decomposition of acetaldehyde of 60% or more four hours after the start of irradiation.

11. (previously amended): The composition for forming a transparent film according to claim 1, wherein, after the following steps: applying the composition to a substrate to a coating thickness of 200 nm and irradiating the coating film from the top thereof with light from a day white fluorescent lamp such that the intensity of 365 nm UV light is controlled to 6 $\mu\text{W}/\text{cm}^2$, the contact angle between the coating film and water is 10° or less, 24 hours after the start of irradiation.

12. (previously amended): A composition for forming a transparent film according to claim 1, wherein, when the thickness of the film is 200 nm, the film has a total light transmittance of at least 95% and a haze of 1% or less.

13. (canceled).

14. (previously amended): The composition for forming a transparent film according to claim 1, wherein said cohydrolysis-polycondensation product of an aluminum alkoxide represented by the formula $\text{Al}(\text{OR})_3$ and a titanium alkoxide represented by the formula $\text{Ti}(\text{OR}')_4$ has a particle size equivalent to or smaller than that of the photocatalytic particles.

15. (previously amended): The composition for forming a transparent film according to claim 1, wherein a powder obtained by drying said cohydrolysis-polycondensation product of an aluminum alkoxide represented by the formula $\text{Al}(\text{OR})_3$ and a titanium alkoxide represented by the formula $\text{Ti}(\text{OR}')_4$ has a specific surface area of $100\text{m}^2/\text{g}$ or more.

16. (previously amended): The composition for forming a transparent film according to claim 1, further comprising a surface active agent.

17. (previously amended): The composition for forming a transparent film according to claim 1, wherein the film obtained by coating and curing said composition on a substrate and having a thickness of 200 nm exhibits a yellowing degree of 10 or less, after the film is subjected to an acceleration-exposure test employing a xenon arc lamp for 4,000 hours, and exhibits a contact angle with water of 20° or less, after the irradiation of the film for 24 hours with light from a day white fluorescent lamp such that the intensity of 365 nm UV light is controlled to 6 $\mu\text{W}/\text{cm}^2$.

18. (previously amended): A method for producing a composition as recited in claim 1 for forming a transparent film, the method comprising a step of adding a β -diketone in an amount of 0.1 mol to 3 mol, an acid in an amount of 0.5 to 2 mol, and water in an amount of 1 to 20 mol to 1 mol of aluminum alkoxide represented by the formula $\text{Al}(\text{OR})_3$ to form a solution; a step of adding a titanium alkoxide represented by the formula $\text{Ti}(\text{OR}')_4$ in an amount of 0.01 to 0.5 mol to the solution, while the mixture is heated at 40°C to 70°C, to form a composition comprising the cohydrolysis-polycondensation product of an aluminum alkoxide represented by the formula $\text{Al}(\text{OR})_3$ and a titanium alkoxide represented by the formula $\text{Ti}(\text{OR}')_4$.

19. (original): The method as claimed in claim 18, further comprising a step of adding photocatalytic particles to said composition comprising the cohydrolysis-polycondensation product of an aluminum alkoxide represented by the formula $\text{Al}(\text{OR})_3$ and a titanium alkoxide represented by the formula $\text{Ti}(\text{OR}')_4$.

20. (original): The method as claimed in claim 19, wherein the composition for forming a transparent film comprises a hydrophilic solvent in an amount of 10 % by mass or less.

21. (currently amended): A composition for forming a transparent film, which is produced through a method as recited in ~~claim 17~~claim 18.

22. (previously amended): A method for forming a transparent film, comprising coating and curing the composition for forming a transparent film as recited in claim 1.

23. (previously amended): A material for an exterior wall of a building, a soundproof wall for a road, a windowpane of a building, a glass material for a showcase, a glass material for a fluorescent lamp, a guardrail, a filter for a deodorizing apparatus, a reactor for water treatment, an interior decoration tile, a water bath, or a shade for a lighting apparatus, to which a composition for forming a transparent film as recited in claim 1 has been applied.

24. (previously amended): An advertising signboard, a transparent soundproof wall for a road, a transparent resin building material for exterior finishing, or a shade for a lighting apparatus, having a hard coating layer formed by applying a composition for forming a transparent film as recited in claim 1